IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION

B.P.J. by her next friend and mother, HEATHER JACKSON,

*Plaintiff*,

v.

WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official capacity as State Superintendent, DORA STUTLER in her official capacity as Harrison County Superintendent, and THE STATE OF WEST VIRGINIA,

*Defendants*,

and

LAINEY ARMISTEAD,

*Defendant-Intervenor*.

Civil Action No. 2:21-cv-00316

Hon. Joseph R. Goodwin

**MEMORANDUM IN SUPPORT OF PLAINTIFF'S MOTION TO EXCLUDE EXPERT TESTIMONY OF GREGORY A. BROWN**

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Plaintiff B.P.J. respectfully submits this memorandum of law in support of her motion to exclude the proffered expert testimony of Gregory Brown, Ph.D., FACSM from consideration at summary judgment or trial.

## INTRODUCTION AND BACKGROUND

Plaintiff B.P.J. is an 11-year-old girl who is transgender. Because she is transgender, B.P.J. is categorically prohibited from participating with other girls on her middle school's cross-country or track and field teams as a result of H.B. 3293. B.P.J. brought this lawsuit to challenge this categorical exclusion as violating B.P.J.'s right to be free from discrimination under Title IX of the Education Amendments of 1972 and the Equal Protection Clause.

As part of their defense of H.B. 3293, Defendant the State of West Virginia and Defendant-Intervenor Lainey Armistead ("Intervenor") identified and disclosed an expert report from Gregory Brown, Ph.D., FACSM. According to Dr. Brown, girls and women who are transgender have an inherent athletic advantage over cisgender girls even when they receive puberty-delaying medication and gender-affirming hormones, and even when they reduce their levels of circulating testosterone after puberty. (*See generally* Dkt. No. 289-30 (Brown Rep.)) Dr. Brown has not been qualified by the court as an expert witness in any other litigation. He submitted an expert report in *Soule by Stanescu v. Connecticut Ass'n of Sch., Inc.*, No. 3:20-CV-00201 (RNC) (D. Conn.) before that case was dismissed, and he submitted declarations in support of a motion for preliminary injunction in *Soule* and in opposition to a motion for preliminary injunction in *Hecox v. Little*, No. 1:20-cv-00184-DCN (D. Idaho). (*See* Block Decl. Ex. A.)

As discussed below, Dr. Brown's report is an advocacy piece that is not grounded in reliable data and does not reflect the application of reliable principles and methods. Although Dr. Brown has expertise in discussing the physiological differences between cisgender men and women that relate to athletic performance, his report ventures far beyond his areas of expertise to

offer sweeping and speculative conclusions about the biological determinants of sex, the athletic performance of prepubertal children, and the impact of puberty-delaying medication and gender affirming hormones. While purporting to provide a review of the relevant literature, Dr. Brown misleadingly quotes excerpts from sources that suit his theories while ignoring other portions of the same articles that directly undermine his claims. These omissions are not small or isolated; they are multiple, egregious, and so significant that they present a fundamentally inaccurate description of the sources he purports to summarize. Such "[r]esult-driven analysis, or cherry-picking, undermines principles of the scientific method and is a quintessential example of applying methodologies (valid or otherwise) in an unreliable fashion." *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs. & Prod. Liab. Litig. (No II) MDL 2502*, 892 F.3d 624, 634 (4th Cir. 2018).

To take just one example, Dr. Brown states in his report that a consensus statement "signed by more than 60 sports medicine experts from prestigious institutions around the world" supports his view that suppressing circulating levels of testosterone after puberty is insufficient to mitigate the alleged athletic advantages of transgender women. (Dkt. No. 289-30 (Brown Rep.) ¶ 167) (citing Hamilton, B. et al, Integrating transwomen and female athletes with differences of sex development (DSD) into elite competition: the FIMS 2021 consensus statement. Sports Med (2021).) Brown quotes the consensus statement for the proposition that "[t]ranswomen have the right to compete in sports. However, cisgender women have the right to compete in a protected category." (*Id.* at ¶ 12.) But Dr. Brown never discloses that the consensus statement prominently and repeatedly *rejects* the opinions he offers in this case. A summary of "Key Points" at the beginning of the consensus statement emphasizes that "[t]he use of testosterone concentration limits of 5 nmol/L in transwomen and DSD women athletes is a justifiable threshold based on the best available scientific evidence." (Block Decl. Ex. G (Hamilton 2021) at 1402.) When asked

during his deposition why he failed to disclose this critical information in his report, Dr. Brown stated, "I disagree with that key point," and explained that in deciding what portions of the article to mention in his report, "I cited the information that I agree with." (Dkt. No. 289-31 (Brown Dep. Tr.) 231:2-13.) That is virtually the same response given by one of the experts who was excluded from the *In re Lipitor* litigation when confronted with the fact that he had excluded important studies from his analysis. In that case, Dr. Quon testified, "I only wrote things that I believe. And I don't believe these studies." *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs. & Prod. Liab. Litig.*, 174 F. Supp. 3d 911, 930–31 (D.S.C. 2016). Disagreement does not give Dr. Brown a license to omit contradictory findings from a study that he cites to, and these omissions underscore the unreliability of his report more broadly.

Dr. Brown's result-driven analysis reflects the fact that he is not a passive bystander in this case. Rather, Dr. Brown proactively sought out the opportunity to be involved in supporting exclusionary laws like H.B. 3293. Several years ago, after learning that Intervenor's counsel, the Alliance Defending Freedom ("ADF"), was attempting to exclude two transgender girls in Connecticut from competing on their high school girls' track-and-field team, Dr. Brown contacted ADF to volunteer his services. (Dkt. No. 289-31 (Brown Dep. Tr.) 35:22–36:7.) Dr. Brown had not previously engaged in similar solicitation for any other topic. (*Id.* at 36:15–37:13.) Since then, Dr. Brown has actively lobbied across the country for the passage of legislation categorically banning girls and women who are transgender from participating on girls' and women's athletic teams, often at the invitation of groups who oppose legal protections for transgender people. Dr. Brown testified in support of legislation in Ohio at the request of the Center for Christian Virtue, (Dkt. No. 289-31 (Brown Dep. Tr.) 32:17-18); in Texas at the request of Texas Values, (*id.* at

32:19-20); in North Carolina at the request of North Carolina Values, (*id.* at 32:22–33:1); and in Pennsylvania at the request of the Pennsylvania Family Alliance, (*id.* at 32:2-4.)

Because Dr. Brown's testimony is not "based on sufficient facts or data" and is not "the product of reliable principles and methods," his proffered opinions do not qualify under Federal Rule of Evidence 702 as admissible expert testimony. The court should exercise its "special gatekeeping obligation" and exclude his testimony from consideration at summary judgment or trial. *Sardis v. Overhead Door Corp.*, 10 F.4th 268, 281 (4th Cir. 2021).

**LEGAL STANDARD**

Federal Rule of Evidence 702 "permits an expert to testify where the expert's 'scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue,' so long as the expert's opinion is 'based on sufficient facts or data,' 'is the product of reliable principles and methods,' and the expert 'has reliably applied the principles and methods to the facts of the case.'" *In re Lipitor*, 892 F.3d at 631 (quoting Fed. R. Evid. 702). "Rule 702 thus imposes a special gatekeeping obligation on the trial judge to ensur[e] that an expert's testimony both rests on a *reliable* foundation and is *relevant* to the task at hand." *Sardis*, 10 F.4th at 281 (internal quotation marks and citations omitted). If an expert's testimony is "alleged to be unreliable, then the trial judge must determine whether the testimony has a reliable basis in the knowledge and experience of the relevant discipline. While district courts have broad discretion in analyzing reliability, such discretion does not include the decision to abandon the gatekeeping function." *Id.* at 282 (internal quotation marks and citations omitted).

Rule 702 applies with full force when ruling on a motion for summary judgment even when the case is scheduled for bench trial. Summary judgment cannot be granted or denied based on evidentiary material that "cannot be presented in a form that would be admissible in evidence." Fed. R. Civ. P. 56(c)(2); *see Humphreys & Partners Architects, L.P. v. Lessard Design, Inc.*, 790

F.3d 532, 538 (4th Cir. 2015). Thus, when evidence related to a material fact comes in the form of expert testimony, "the propriety of summary judgment hinges on whether [the] expert evidence is admissible before this Court" under Rule 702. *Rover Pipeline LLC v. Rover Tract No(s). WV-MA-ML-056.500-ROW & WV-MA-ML-056.500-ATWS*, No. 5:18-CV-68, 2021 WL 3424270, at *3 (N.D.W. Va. Aug. 5, 2021); *accord Bellitto v. Snipes*, 302 F. Supp. 3d 1335, 1347 (S.D. Fla. 2017).

## I. Dr. Brown's Opinion Regarding the Definition of "Biological Sex" Should Be Excluded.

One of the issues in this litigation is whether H.B. 3293's definition of "biological sex"—which the statute defines as "an individual's physical form as a male or female based solely on the individual's reproductive biology and genetics at birth"—reflects an accurate medical or scientific understanding of the term. W. Va. Code § 18-2-25d(b)(1). B.P.J. has submitted expert declarations from Dr. Joshua Safer, an endocrinologist who specializes in transgender medicine, and Dr. Deanna Adkins, a pediatric endocrinologist who specializes in the treatment of transgender adolescents and of children and adolescents with differences of sexual development ("DSD"). As experts in their fields, Dr. Safer and Dr. Adkins have explained that biological sex encompasses the sum of several different biological attributes, including sex chromosomes, certain genes, gonads, sex hormone levels, internal and external genitalia, other secondary sex characteristics, and gender identity, which itself has biological roots. (*See* Dkt. No. 289-25 (Safer Rep.) ¶ 48; Dkt. No. 289-26 (Safer Rebuttal) ¶¶ 5–7 (and sources cited therein); Dkt. No. 289-23 (Adkins Rep.) ¶ 41.) For these reasons, the Endocrine Society cautions that the term "biological sex" is "imprecise and should be avoided" in the context of discussing transgender people and people with DSDs. (Dkt. No. 289-23 (Adkins Rep. ¶ 41) (citing Block Decl. Ex. C (Hembree (2017)).

In Section I of his report, Dr. Brown purports to offer a contrary expert opinion regarding the definition of "biological sex," but Dr. Brown has no qualifications to offer an expert opinion

on this topic. And the opinions he does offer are cherry-picked, taking quotations out of context while ignoring other portions of the articles that directly contradict his assertions.

First, Dr. Brown lacks qualification to discuss the medical and scientific communities' understanding of sex's biological elements. An expert witness must possess requisite "knowledge, skill, experience, training, or education" that would assist a trier of fact. *Kopf v. Skyrm*, 993 F.2d 374, 377 (4th Cir. 1993). Moreover, "an expert's qualifications must be within the same technical area as the subject matter of the expert's testimony; in other words, a person with expertise may only testify as to matters within that person's expertise." *Martinez v. Sakurai Graphic Sys. Corp.*, No. 04 C 1274, 2007 WL 2570362, at *2 (N.D. Ill. Aug. 30, 2007). "Generalized knowledge of a particular subject will not necessarily enable an expert to testify as to a specific subset of the general field of the expert's knowledge." *Id.* "For example, no medical doctor is automatically an expert in every medical issue merely because he or she has graduated from medical school or has achieved certification in a medical specialty." *O'Conner v. Commonwealth Edison Co.*, 807 F. Supp. 1376, 1390 (C.D. Ill. 1992), *aff'd*, 13 F.3d 1090 (7th Cir. 1994).

Dr. Brown is a professor of Exercise Science. He is not an endocrinologist or a geneticist. The opinion in his report regarding the biological basis of sex consists almost entirely of quotations from an Endocrine Society article. (*See* Block Decl. Ex. D (Bhargava et al. (2021)). Instead of relying on any expertise or experience of his own, Dr. Brown merely stitches together selected excerpts from the Bhargava 2021 article to discuss matters on which he has no independent expertise. Rule 702 requires more. *See Dura Auto. Sys. of Ind., Inc. v. CTS Corp.*, 285 F.3d 609, 614 (7th Cir. 2002) ("A scientist, however well credentialed he may be, is not permitted to be the mouthpiece of a scientist in a different specialty.").

Moreover, although Dr. Brown's report addressed DSDs, (*see* Dkt. No. 289-30 (Brown Rep.) ¶ 4), Dr. Brown disclaimed at deposition that he was offering any expert testimony regarding the biological bases of sex for people with DSDs, including people with complete androgen insensitive syndrome ("CAIS"). (Dkt. No. 289-31 (Brown Dep. Tr.) at 44:15–49:11.) Dr. Brown stated that he "stand[s] by" a sentence in his report quoting Bhargava 2021 for the proposition that "[m]any DSDs are associated with genetic mutations that are now well known to endocrinologist and geneticists," which he said represented the "full extent of [his] expert testimony about DSDs." (*Id.* at 46:8–47:15.) But Dr. Brown could not answer whether CAIS is caused by a genetic mutation. (*Id.* at 47:16–48:3.) Dr. Brown also disclaimed any expertise on the athletic participation of women with CAIS generally. (*See id.* at 45:4-10 ("I have been retained as an expert witness in this matter primarily dealing with biological male and biological female and not as an expert on disorders or differences of sexual development. And so I would say I probably would not be the best person to offer a statement on where someone with CAIS should participate.")).

Second, even if Dr. Brown were qualified to provide an expert opinion based on the Bhargava 2021 article, Dr. Brown does not employ any reliable methodology in forming his opinion that sex is determined at conception based on chromosomes. Dr. Brown simply plucks out isolated quotes from the Bhargava 2021 to paint a misleading picture that the article supports his pre-determined conclusions about chromosomes. In reality, the article directly undermines Dr. Brown's claims. The introduction of the article explains that "[s]ex differences are caused by 3 major factors—sex hormones, genes, and environment." (Block Decl. Ex. D (Bhargava 2021) at 220.) The article has a few subsections describing the role of chromosome kayrotypes, while cautioning that "karyotypic analysis may be misleading, as there are well-described 46,XX males" and " 46,XY females." (*Id.* at 221.) The article then explains how physical sexual differentiation

occurs when genes interact with hormones and environmental factors in utero and during puberty. (*See id.* at 222 (discussing "Sexual Differentiation Caused by Gonadal and Non-Gonadal Hormones); *id.* at 223 (discussing "Influence of Gonadal Steroid Hormones and Nongonadal Hormones in Brain Development"); *id.* at 225 ("Given that the critical and sensitive periods for sexual differentiation are defined by the production and response to gonadal steroids, it is not surprising that steroids are the primary drivers of developmental origins of sex differences in brain (and probably other tissues) and behavior."); *id.* at 227 (discussing "Hormonal Versus Sex Chromosome Effects" and explaining that "[s]ex differences are caused by 3 major factors—sex hormones, genes on sex chromosomes/autosomes, and environment").)

Dr. Brown also misrepresents what the Bhargava 2021 article says about the biological roots of gender identity. Dr. Brown quotes Bhargava for the proposition that "a clear biological causative underpinning of gender identity remains to be demonstrated." (Dkt. No. 289-30 (Brown Rep.) ¶ 4.) But the article goes on to explain that, while the precise causative factor is unknown, "there is ample but incomplete evidence for biological substrates—neuroanatomic, genetic, and hormonal—for gender orientation." (Block Decl. Ex. D (Bhargava 2021) at 227.)

Whether due to a lack of familiarity with the materials or as a result of deliberate cherry-picking, Dr. Brown's alleged expert opinion about the meaning of "biological sex" fundamentally misrepresents the article he purports to summarize and lacks "a reliable basis in the knowledge and experience of the relevant discipline." *Sardis*, 10 F.4th at 282 (internal quotation marks and citations omitted).

## II. Dr. Brown's Opinions Regarding Prepubertal Children and the Alleged Athletic Advantages of Transgender Girls Who Receive Puberty-Delaying Medication Should Be Excluded.

The Court should also exclude Dr. Brown's opinions regarding alleged advantages of transgender girls who receive puberty-delaying medication. There is a broad consensus in the

scientific literature that the primary biological basis for differences in athletic performance between men and women is the rise in circulating levels of testosterone beginning in endogenous male puberty. (*See* Dkt. No. 289-27 (Handelsmann 2018).) The average differences in athletic performance between boys and girls before puberty are generally between 0 and 6% depending on the sport, and are routinely described as "minimal" or nonexistent.[1] In light of this scientific consensus, it is widely acknowledged that transgender girls who never go through endogenous puberty as a result of puberty-delaying medication do not have any average athletic advantages compared with cisgender girls.[2]

Until his expert report in this case, Dr. Brown did not dispute this consensus. In the expert declaration he submitted to this Court in opposition to Plaintiff's Motion for a Preliminary Injunction, Dr. Brown repeatedly acknowledged and accepted the scientific consensus that prepubertal boys do not have any meaningful athletic advantage over prepubertal girls, and that the physiological characteristics that create athletic advantages do not arise until circulating levels

[1] (*See, e.g.*, Dkt. No. 289-27 (Handelsman et al. 2018) ("Age-grade competitive sports records show minimal or no female disadvantage prior to puberty"); *id.* at fig.1 (showing average performance gaps of 6% or less for running, jumping, and swimming); Block Decl. Ex. I (Tønnessen 2015) at 1 (reporting that "[m]ale and female athletes perform almost equally in running and jumping events up to the age of 12" and calculating differences for 11-year-olds at less than 5%); *id.* Ex. N (Coleman 2020) at 95 (summarizing competitive swimming data showing that "pre-pubertal children of both sexes are competitive for the win in co-ed events, with females having some advantage in the six to eight-year-old age brackets").)

[2] (*See* Block Decl. Ex. J (World Rugby Guidelines) ("Transgender women who transitioned pre-puberty and have not experienced the biological effects of testosterone during puberty and adolescence can play women's rugby."); *id.* Ex. Q (Briefing Book) at 8 ("Because the onset of male puberty—normally around ages 11–12 in boys—is the physical justification for separate sex sport, trans girls and women who have never experienced the onset of male puberty should be included without condition." (footnote omitted).)

of testosterone rise during a typically male endogenous puberty.[3] But after this Court granted Plaintiff's Motion for a Preliminary Injunction and highlighted the fact that B.P.J. is receiving puberty blocking medication, Dr. Brown dramatically shifted gears and developed a newfound expert opinion regarding the athletic performance of prepubertal youth, without any acknowledgment of his about-face or effort to explain his change in position. In his most recent expert report, Dr. Brown revises his previous opinion that "men, and adolescent boys, perform better in almost all sports than women, and adolescent girls because of their inherent physiological advantages that develop during male puberty" and asserts for the first time that "men, adolescent boys, ***and prepubertal male children*** perform better in almost all sports than women, adolescent girls, and prepubertal." (Dkt. No. 289-30 (Brown Rep.) at 4 (emphasis added).) Dr. Brown then further speculates that these alleged advantages persist even after transgender girls and women receive puberty-delaying medication and gender affirming hormones.

As discussed below, Dr. Brown's newfound opinions should be excluded. An "expert's testimony must be reliable at each and every step or else it is inadmissible. The reliability analysis applies to all aspects of an expert's testimony: the methodology, the facts underlying the expert's

[3] (*See* Block Decl. Ex. A (Brown Hecox Rep.) ¶ 25 (describing "male athletic performances" before puberty as "being equal on average on those of age-matched females") (quoting Handelsmann 2018); ¶ 90 ("As with muscle, sex differences in bone are absent prior to puberty but then accrue progressively from the onset of male puberty due to the sex difference in exposure to adult male circulating testosterone concentrations.") (citing Handelsman 2018); ¶ 95 ("Before puberty, boys and girls hardly differ in height, muscle and bone mass."); ¶ 109 ("[S]ex differences in physical capacities (assessed as [maximal oxygen uptake] or isometric strength in the majority of cases) are negligible prior to the onset of puberty.") (citing Tønnessen 2015); ¶ 113 ("[B]efore puberty, boys and girls do not differ in height, muscle and bone mass.") (citing Gooren 114); ¶ 114 (explaining that "physical advantage in performance arises during early adolescence when male puberty commences after which men acquire larger muscle mass and greater strength, larger and stronger bones, higher circulating haemoglobin as well as mental and/or psychological differences."); ¶ 119 ("It is concluded that the gender divergence in athletic performance begins at the age of 12-13 years and reaches adult plateau in the late teenage years."))

opinion, the link between the facts and the conclusion, et alia." *Knight v. Kirby Inland Marine Inc.*, 482 F.3d 347, 355 (5th Cir. 2007) (quotation marks omitted). Dr. Brown's proffered testimony about prepubertal children and puberty-delaying medication fails this reliability analysis at each step of the process. To support his newfound opinion, Dr. Brown engages in a result-oriented search for materials, while ignoring contrary information he found to be inconvenient, including contrary information he cited in previous reports but deleted from the one submitted in this case. Instead of acknowledging the peer-reviewed literature finding no significant differences in athletic performance, Dr. Brown relies on physical fitness tests of the general population and on raw data he personally downloaded from the internet without subjecting to peer review. (Dkt. No. 289-30 (Brown Rep.) ¶¶ 71–109.) He then goes beyond that shaky foundation to engage in pure speculation that the alleged advantages he found will persist even when a transgender girl receives puberty blockers and then undergoes a typically female puberty through gender-affirming hormones. (*Id.* at ¶¶ 110–13.) Each of these missteps—whether alone or in combination—require that the testimony be excluded. *See In re Lipitor*, 892 F.3d at 637–38 ("[C]ourts must look to the entire process that produced an opinion to determine whether the expert's work satisfies *Daubert*'s fundamental command: that expert testimony be reliable and relevant.")

### A. Dr. Brown's Assertions Regarding Prepubertal Physiological Differences Are Not Reliable.

***First***, Dr. Brown attempts to show that "much data and multiple studies show that significant physiological differences" exist between prepubertal boys and prepubertal girls. (Dkt. No. 289-30 (Brown Rep.) ¶ 72.) But, as with his discussion of "biological sex," Dr. Brown uses selective quotations to present a fundamentally inaccurate description of the sources he purports to summarize. "Result-driven analysis, or cherry-picking, undermines principles of the scientific method and is a quintessential example of applying methodologies (valid or otherwise) in an

unreliable fashion." *In re Lipitor*, 892 F.3d at 634. "[J]ust as omitting data might distort the result by overlooking unfavorable data, cherry-picking data produces a misleadingly favorable result by looking only to 'good" outcomes.'" *EEOC v. Freeman*, 778 F.3d 463, 469–70 (4th Cir. 2015) (Agee, J., concurring).

To justify his claims, Dr. Brown focuses on what he calls a "seminal work" by McManus and Armstrong, which states that there is a "small but detectable" difference in lean body mass "throughout childhood with about a 10% greater lean mass in boys than girls prior to puberty." (Dkt. No. 289-30 (Brown Rep.) ¶ 71 (quoting Block Decl. Ex. L (McManus 2011) 56:23-46)).) Plucking out that single fact, Dr. Brown ignores the article's remaining findings that there are no significant differences between prepubertal boys and girls across a range of characteristics relevant to athletic performance. (*See* Block Decl. Ex. L (McManus 2011) at 24 ("Prior to 11 years of age differences in average speed are minimal"); *id.* at 27 ("small sex difference in fat mass and percent body fat are evident from mid-childhood"); *id.* at 29 ("bone characteristics differ little between boys and girls prior to puberty"); *id.* at 32 ("There is little evidence that prior to puberty pulmonary structure or function limits oxygen uptake"); *id.* at 34 ("[N]o sex differences in arterial compliance have been noted in pre- and early- pubertal children").

Dr. Brown similarly misrepresents his other sources. Dr. Brown states that "[i]n a review of 22 peer reviewed publications on the topic, Staiano and Katzmarzyk (2012) conclude that girls have more T[otal]B[ody]F[at] than boys throughout childhood and adolescence." (Dkt. No. 289-30 (Brown Rep.) ¶ 73.) Dr. Brown thus gives the false impression that all 22 of the peer-reviewed publications demonstrated differences on total body fact. To the contrary, as Staiano and

Katzmarzyk's expressly note, "not all studies demonstrate sex differences in T[otal]B[ody]F[at] before puberty."[4] (Block Decl. Ex. M (Staiano 2012).)

Instead of providing a reliable accounting of the alleged "significant physiological differences" between prepubertal boys and girls, Dr. Brown was "selective in his choice of supporting data, focusing only on those fragments of data which tend to lend credence to his theory." *In re Hanford Nuclear Reservation Litig.*, 894 F. Supp. 1436, 1450 (E.D. Wash. 1995). Indeed, Dr. Brown admitted that he does not think the opinions he expressed in his expert report should be held to "the same standards of peer-reviewed article[s]" or "the same rigor as a peer-reviewed article." (Dkt. No. 289-31 (Brown Dep.) 134:17-22, 135:15-17.) According to Dr. Brown, "in a peer-reviewed article, you are not providing opinions; you are summarizing literature," and "the writing style is so phenomenally different." (*Id.* at 136:10-13, 137:16-17.)

But regardless of what writing style an expert uses, their opinion must still derive from a reliable application of scientific principles or methods. Whether in the courtroom or in a peer-reviewed article, cherry-picking fails that test. *See Barber v. United Airlines, Inc.*, 17 Fed. Appx. 433, 437 (7th Cir. 2001) (rejecting expert who did not explain why he ignored certain data, accepted only testimony and data that suited his theory, and "cherry-picked" supporting facts); *In re Bextra & Celebrex Mktg. Sales Practices & Prod. Liab. Litig.*, 524 F. Supp. 2d 1166, 1176 (N.D. Cal. 2007) (excluding expert's testimony where expert "reache[d] his opinion by first identifying his conclusion . . . and then cherry-picking observational studies that support his

[4] For example, "[a] multi-year longitudinal study of American boys and girls aged 8.1±1.6 years found similar TBF. There were no significant sex differences for TBF measured by bioelectrical resistance in a study of 4 boys and 12 girls aged 6.4±1.2 years in the US.41 A study of 129 African American and white 10–12-year-olds indicated no difference in TBF measured by DXA across sexes, though boys had a bimodal distribution of TBF whereas girls' TBF was skewed to higher values. Additionally, there were no sex differences in total abdominal fat measured by CT in 31 6–7-year-olds in the Netherlands." (Block Decl. Ex. N (Staiano 2012) at 5.)

conclusion and rejecting or ignoring the great weight of the evidence that contradicts his conclusion."); *Carnegie Mellon Univ. v. Hoffmann–LaRoche. Inc.*, 55 F. Supp. 2d 1024, 1039 (N.D. Cal. 1999) ("The Ninth Circuit has upheld the exclusion of expert testimony where the expert selectively chose his support from the scientific landscape.") (citing *Lust v. Merrell Dow Pharms., Inc.*, 89 F.3d 594, 598 (9th Cir. 1996)).

### B. Dr. Brown's Assertions That Prepubertal Boys Have Athletic Advantages Due to Innate Physiology Are Unreliable.

***Second***, Dr. Brown argues that the "small but detectable" differences in lean body mass sometimes found in prepubertal boys and girls creates an inherent biological athletic advantage for prepubertal boys in "almost all athletic events." (Dkt. No. 289-30 (Brown Rep.) at 4, 56.) Dr. Brown could not identify any studies that purport to calculate how much a 10% difference in lean body mass enhances athletic performance. (Dkt. No. 289-31 (Brown Dep. Tr.) 89:4-6.)

Instead, to support his sweeping claim that prepubertal boys have an advantage in "almost all athletic events," Dr. Brown relies on population-based data from physical fitness tests, not studies of people who have chosen to participate in competitive athletics. (Dkt. No. 289-30 (Brown Rep.) ¶¶ 75–100.) Because these epidemiological studies do not compare athletes with athletes, there is no reliable basis for Dr. Brown to attribute those differences among the general population to innate biology instead of to social factors such as greater societal encouragement of athleticism in boys and greater opportunities for boys to play sports. (Dkt. No. 289-26 (Safer Rebuttal) ¶ 9.) Indeed, Dr. Brown conceded at deposition that he could not find a single study that purported to "quantify[] the effects of social causes" versus "physiological factors" on differences in athletic performance between prepubertal boys and girls. (Dkt. No. 289-31 (Brown Dep. Tr.) 94:13-23.)

Beyond the physical fitness surveys, Dr. Brown also relies on a single year's worth of data about track-and-field competitions that he personally downloaded from the Athletic.net website.

(Dkt. No. 289-30 (Brown Rep.) App. 1.) Dr. Brown has not attempted to publish this raw data or subject it to peer review. (Dkt. No. 289-31 (Brown Dep. Tr.) 95:15-24.) Unsurprisingly, the raw data has many anomalies: in many of the events, the average differences in performance reported by Dr. Brown are in the low single-digits for 7–8-year-olds, spike to double digits for 9–10-year-olds and then return to single-digits for 11-12-year-olds. (Dkt. No. 289-30 (Brown Rep.) App. 1.) Aside from these anomalous spikes, the majority of the average differences in performance reported by Dr. Brown are below 7% and often below 5%. (*See id.*) As noted above, extensive peer-reviewed literature characterizes difference at 6% or less as minimal or insignificant.[5]

While he relies on inapposite physical fitness surveys and his own collection of raw data, Dr. Brown simply ignores the extensive peer-reviewed studies of competitive age-grade sports that found minimal or no differences before prepubertal boys and girls, with the differences in performance for various sports all being 6% or less.[6] Dr. Brown's omission is particularly glaring because Dr. Brown previously relied on those findings in an earlier draft of his own expert report,[7] and even continues to cite to portions of those studies in the latest version.[8] "[F]ailing to

[5] *See supra* note 1.

[6] *See supra* note 1. Unlike the raw data Dr. Brown downloaded, the Tønnessen 2015 study examined the "100 all-time best male and female 60m, 800m, long jump and high jump athletes in each age category from 11 to 18" from a dataset going back to 1975. (Block Decl. Ex. I (Tønnessen 2015).) A study by Handelsmann (2017) examined four different sources of data: (1) the US Age Group Swimming time standards which lists the prevailing time standard for entry to the top level of all boys and girls events for individual years from 1981 to 2016; (2) the current world records for boys and girls between the ages of 5 and 19 years in running events from 50 m to 2 miles, and in high jump, pole vault, long jump, triple jump, and standing long jump. (Block Decl. Ex. E (Handelsmann 2017).)

[7] *See supra* note 3.

[8] (*See* Dkt. No. 289-30 (Brown Rep.) ¶¶ 8, 12, 14–15, 18, 22, 29, 45–48, 50, 52, 54–55, 64, 66, 115–16, 120, 146, 156 (citing Handelsmann 2018); *id.* at ¶¶ 17, 22, 29, 64, 110 (citing Handelsmann 2017); *id.* at ¶¶ 22, 29, 59, 115 (citing Tønnessen 2015); *id.* at ¶ 8 (citing Coleman, D. L. et al., Re-affirming the value of the sports exception to Title IX's general non-discrimination rule. Duke J. of Gender and Law Policy 27(69):69-134 2020).)

adequately account for contrary evidence is not reliable or scientifically sound." *In re Lipitor*, 174 F. Supp. 3d 911, 932 (D.S.C. 2016); *see McEwen v. Baltimore Washington Med. Ctr. Inc.*, 404 Fed.Appx. 789, 791–92 (4th Cir. 2010) (upholding exclusion of expert testimony where experts "failed to meaningfully account for . . . literature at odds with their testimony"); *In re Zoloft (Sertraline Hydrochloride) Products Liab. Litig.*, 26 F. Supp. 3d 449, 460–61 (E.D. Pa. 2014) ("The Court finds that the expert report . . . does selectively discuss studies most supportive of her conclusions . . . and fails to account adequately for contrary evidence, and that this methodology is not reliable or scientifically sound.").

### C. Dr. Brown's Assumption That Prepubertal Transgender Girls Will Have the Same Physiology as Prepubertal Cisgender Boys Is Unreliable.

***Third***, Dr. Brown assumes without evidence that prepubertal transgender girls will tend to have the same average body composition and performance on physical fitness tests as prepubertal cisgender boys. But, as Dr. Brown admits, he is not aware of any studies purporting to measure the athletic performance or physical fitness of transgender girls. (Dkt. No. 289-31 (Brown Dep. Tr.) 99:8-11.) Moreover, one of the sources Dr. Brown cites in support of his position specifically observed that even before receiving puberty-blocking medication, a cohort of transgender girls already had a percentage of body fat that was more similar to cisgender girls than to cisgender boys.[9] Other articles cited by Dr. Brown also expressly caution that "hormone-naïve transwomen may not, on average, have the same athletic attributes as cisgender men" and state that "[t]he need to move beyond simple comparisons of cisgender men and women to assess the sporting

[9] (*See* Block Decl. Ex. O (Klaver 2018) at 251–60) (reporting that "[b]efore the start of GnRHa, . . . transwomen had a percentage of body fat closer to that of ciswomen (SDS = -0.9) than to that of cismen (SDS =1.6)" and explaining that "[t]he cause of the increased percentage of body fat and BMI in transwomen is unknown, but it can be postulated that psychological stress from gender dysphoria and an inactive lifestyle could have contributed") (footnote omitted).)

capabilities of transwomen is imperative." (Block Decl. Ex. F (Harper 2021) at 7.)[10] Despite purporting to base his opinions on these articles, (*see* Dkt. No. 289-30 (Brown Rep.) ¶ 8), Dr. Brown ignored these explicit limitations communicated by the articles' authors.

### D. Dr. Brown's Assumption that Alleged Physiological Differences Before Puberty Will Persist After Puberty-Delaying Medication and Gender-Affirming Hormones Is Unreliable.

***Fourth***, Dr. Brown assumes that alleged advantages for transgender girls that he claims exist pre-puberty will persist after a transgender girl receives puberty-blocking medication followed by gender affirming hormones to stimulate a typically female puberty. (Dkt. No. 289-30 (Brown Rep.) ¶¶ 110–13 & p. 56.) Dr. Brown has no independent qualifications or experience regarding endocrine treatments for transgender people. He has never conducted primary research involving transgender individuals, and to the best of his knowledge none of his subjects has been transgender. (Dkt. No. 289-31 (Brown Dep.) 55:21-22, 56:17-18.) He has never conducted a formal literature review or meta-analysis about treatment of transgender people. (*Id.* at 51:23–56:5.) His only knowledge has come from "[t]rying to keep up with the legislation in sports regarding the participation of transgender individuals and then on seeing the legislation, out of [his] own curiosity, looking to see what research was informing that legislation." (*Id.* at 56:6-12.)

Dr. Brown wrongly assumes that puberty-delaying medication followed by gender-affirming hormones will freeze in place any alleged advantages that exist before puberty. (Dkt. No. 289-30 (Brown Rep.) ¶¶ 110–13 & p.56.) But a transgender woman who receives puberty-delaying medication followed by gender-affirming hormones does not have the physiology of a

[10] (*See also* Block Decl. Ex. G (Hamilton 2021) at 1407 (noting problematic nature of inferring that transwomen and cisgender males are the same); Block Decl. Ex. H (Hilton 2020) at 205 ("[T]ransgender women often have low baseline (pre-intervention) bone mineral density (BMD), attributed to low levels of physical activity, especially weight-bearing exercise, and low vitamin D levels."); *id.* at 208 (noting that "cohorts of transgender women often have slightly lower baseline measurements of muscle and strength than control males.").)

prepubertal boy. (*See* Dkt. No. 289-26 (Safer Rebuttal) ¶ 17.) Following administration of puberty blockers, transgender girls and women will have also received gender-affirming care to allow them to go through puberty consistent with their female gender identity. As a result of a typically female puberty, these transgender girls and women will develop many of the same physiological and anatomical characteristics of cisgender girls and women, including bone size (Dkt. No. 289-30 (Brown Rep.) ¶¶ 46–48), skeletal structure (*id.* at ¶ 49), and "distinctive aspects of the female pelvis geometry [that] cut against athletic performance" (*id.* at ¶ 50.)

Dr. Brown's only authority for his contrary claim is an article, the Klaver 2018 study, measuring the body composition of a cohort of transgender women who received puberty blocking medication at about age 13.5, approximately two years after puberty typically begins. (Dkt. No. 289-30 (Brown Rep.) ¶¶ 112–13.)[11] That study reported its findings along three metrics: lean body mass, body fat, and waist-hip ratio. After receiving puberty-delaying medication and gender-affirming hormones, the transgender women in the Klaver 2018 study had a higher percentage of lean body mass than comparable cisgender women, the same amount of body fat as comparable cisgender women, and overall body compositions that were more similar to cisgender women than to cisgender men. (Block Decl. Ex. O (Klaver 2018) at 255–56.) Instead of reporting the entirety of the study's findings, Dr. Brown reported only the finding about lean body mass. He did not mention the other findings about body fat and overall body composition. When asked why he selectively quoted findings from Klaver 2018 to omit those findings that showed similarities between transgender women and cisgender women, Dr. Brown had no explanation; he testified

[11] As part of its discussion of puberty blockers, Dr. Brown's expert report also cites to a study by Tack et al. (*See* Brown Rep. ¶ 111 (citing Tack 2018).) But Dr. Brown admitted during his deposition that the subjects of study did not actually receive puberty blockers and were not prepubertal. (Dkt. No. 289-31 (Brown Dep. Tr.) 140:4-24, 149:3-5.)

that his discussion of the Klaver 2018 article "is not intended to be a summary of the article in its entirety." (Dkt. No. 289-31 (Brown Dep. Tr.) 157:23-24.)[12]

Even more fundamentally, Dr. Brown presents no data to support the assumption that the transgender women in the Klaver study he references have any athletic advantages compared with cisgender women. In other words, he offers no scientific basis to conclude that there is a connection between lean body mass and athletic advantage, either generally or in the context of particular sports. Indeed, he admits that he is not aware of *any* research whatever concerning the athletic performance of transgender women who have received puberty-delaying medication. (Dkt. No. 289-30 (Brown Rep.) ¶ 110.) "[N]othing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered." *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997). "[D]istrict courts must ensure that an expert's opinion is 'based on scientific, technical, or other specialized *knowledge* and not on belief or speculation.' And to the extent an expert makes inferences based on the facts presented to him, the court must ensure that those inferences were 'derived using scientific or other valid methods.'" *Sardis*, 10 F.4th at 281 (quoting *Oglesby v. Gen. Motors Corp.*, 190 F.3d 244, 250 (4th Cir. 1999) (citations omitted)).

[12] Moreover, even if Dr. Brown had accurately reported the findings of Klaver 2018 in their entirety, the transgender women in that study had already experienced approximately two years of endogenous puberty. Those women would not be representative of transgender girls who receive puberty blocking medication at the beginning of Tanner 2 in accordance with the Endocrine Society Guidelines. Dr. Brown admits in his report that the timing of when puberty blockers are administered is "outside [his] area of expertise," (Dkt. No. 289-30 (Brown Rep.) ¶ 110), but that lack of expertise did not dissuade him from offering an expert opinion based on the mistaken premise that puberty-delaying medication is administered between Tanner 2 and Tanner 3 or making broad statements about the impact of puberty-delaying medication.

* * *

In short, Dr. Brown's newfound opinions about the athletic advantages of transgender girls and women who never go through endogenous puberty as a result of puberty-delaying medication are built on cherry-picked surveys of the literature, raw data never subjected to peer review, a failure to discuss contrary studies on which Dr. Brown previously relied, and a long chain of speculation. Because such testimony "has a greater potential to mislead than to enlighten" it "should be excluded." *In re Lipitor*, 892 F.3d at 632.

## III. Dr. Brown's Opinions Regarding the Inclusion of Transgender Women Who Suppress Testosterone After Endogenous Puberty Should Be Excluded.

In the final section of his expert report, Dr. Brown advances sweeping conclusions about the participation of transgender women who have suppressed circulating testosterone based on an extremely limited set of actual data. (Dkt. No. 289-30 (Brown Rep.) ¶¶ 119–77.) There are only two studies that actually measure the athletic performance of transgender women after suppressing testosterone. (Dkt. No. 289-26 (Safer Rebuttal) ¶ 19.) The other studies measure discrete characteristics such as muscle size or grip strength. (Dkt. No. 289-30 (Brown Rep.) ¶¶ 153–56.) When describing this small universe of data in a blog post for the Physiology Educators Community Practice Blog, Dr. Brown expressed appropriate caution about drawing strong conclusions from the limited data. In his blog post, Dr. Brown warned:

> It is also important to note that the effects of male-to-female hormone treatment on important determinants of athletic performance remain largely unknown. Measurements of VO2max in transwomen using direct or indirect calorimetry are not available. Measurements of muscle strength in standard lifts (e.g., bench press, leg press, squat, deadlift, etc.) in transwomen are not available. Nor have there been evaluations of the effects of male-to-female hormone therapy on agility, flexibility, or reaction time. There has been no controlled research evaluating how male-to-female hormone treatment influences the adaptations to aerobic or resistance training. And there are only anecdotal reports of the competitive athletic performance of transwomen before and after using male-to-female hormone treatment.

(Block Decl. Ex. P (Brown GA).) Dr. Brown concluded that "[i]n the end, whether it is safe and fair to include transgender athletes and athletes with DSD in women's sports comes down a few facts that can be extrapolated, lots of opinions, and an interesting but complicated discussion." *Id.*

But Dr. Brown takes a different approach in his expert report, abandoning nuance and instead offering the sweeping and unequivocal opinions that including transgender women in athletics is irreconcilable with ensuring fairness and that the alleged differences in athletic performance justify an across-the-board rule prohibiting all transgender women from competing in all women's sports under all circumstances regardless of how much and how long they suppress their circulating levels of testosterone because the "policy goals" of "fairness, safety, and full transgender inclusion . . . are irreconcilable for many or most sports." (Dkt. No. 289-30 (Brown Rep.) at 57.) This striking difference between Dr. Brown's public writings and his expert report calls into question the reliability of Dr. Brown's expert testimony because it suggests that he "has not employed in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *In re Lipitor*, 174 F. Supp. 3d at 932 (quoting *Kumho Tire Co. v. Carmichael,* 526 U.S. 137, 152 (1999)) (internal quotation marks and brackets omitted).

Although he has no independent experience in crafting athletic policies, (Dkt. No. 289-31 (Brown Dep. Tr.) 110:4-7), Dr. Brown claims that the sweeping opinions in his expert report are supported by other "peer-reviewed analyses of the scientific literature" and "respected voices." (Dkt. No. 289-30 (Brown Rep.) ¶ 168.) But, as discussed below, Dr. Brown was forced to admit during his deposition that those peer-reviewed analyses and respected voices explicitly *reject* the appropriateness of a categorical ban on the participation of transgender women and girls on women's and girls' sports teams. (*See e.g.*, Dkt. No. 289-31 (Brown Dep. Tr.) 209:8-9.) Indeed, as discussed below, Dr. Brown openly admitted that, in summarizing those articles, he selectively

quoted only from portions of the articles that he agreed with, while ignoring other portions of the article in which the authors rejected the positions Dr. Brown was advocating. (*See* Dkt. No. 289-31 (Brown Dep. Tr.) 200:2-12; 209:8-9; 231:2-13.) "[W]hen an expert purports to apply principles and methods in accordance with professional standards, and yet reaches a conclusion that other experts in the field would not reach, the trial court may fairly suspect that the principles and methods have not been faithfully applied." Rule 702 advisory committee notes.

For example, Dr. Brown relies on a Consensus Statement from the International Federation of Sports Medicine ("FIMS"). Dr. Brown notes that the FIMS Consensus Statement is "signed by more than 60 sports medicine experts from prestigious institutions around the world," (Dkt. No. 289-30 (Brown Rep.) ¶ 12) and quotes the article for the proposition that "[t]ranswomen have the right to compete in sports. However, cisgender women have the right to compete in a protected category[.]" (*Id.* at ¶ 167.) But Dr. Brown never discloses that the FIMS Consensus Statement prominently and repeatedly *rejects* the opinions he offers in this case. A summary of "Key Points" at the beginning of the FIMS Consensus Statement further emphasizes that "[t]he use of testosterone concentration limits of 5 nmol/L in transwomen and DSD women athletes is a justifiable threshold based on the best available scientific evidence." (Block Decl. Ex. G (Hamilton 2021) at 1402.) The official list of "consensus statements" further provide that "[u]se of serum testosterone concentrations as the primary biomarker to regulate the inclusion of athletes into male and female categories is currently the most justified solution as it is supported by the available scientific literature and should be implemented at the elite level, where there is an emphasis on performance enhancement." (*Id.* at 1409.) The FIMS consensus statement also argued against an across-the board rule, explaining that "[a]s each sport can vary greatly in terms of physiological demands, we support the view held also by others stating that individual sport's governing bodies

should develop their own individual policies based on broader guidelines developed on the best available scientific evidence, determined experimentally from a variety of sources with a particular preference for studies on transwomen and DSD women athletes." (*Id.*)

When asked why he failed to disclose this critical information in his report, Dr. Brown stated, "I disagree with that key point," and explained that in deciding what portions of the article to mention, "I cited the information that I agree with." (Dkt. No. 289-31 (Brown Dep. Tr.) 231:2-13.) That is virtually the same response given by one of the experts who was excluded from the *In re Lipitor* litigation when confronted with the fact that he had excluded important studies from his analysis. In that case, Dr. Quon testified, "I only wrote things that I believe. And I don't believe these studies." *In re Lipitor*, 174 F. Supp. 3d at 930–31 (internal citations omitted). Again, these omissions further underscore the unreliability of Dr. Brown's report more broadly.

Dr. Brown engaged in similarly deceptive tactics when describing the views of Professor Dorianne Coleman and the Women's Sports Policy Working Group. Dr. Brown claimed that Dr. Coleman's 2020 article supported his views, but the Coleman 2020 article states that there should be "unconditional inclusion" of transgender girls on girls' sports teams in "high school intramural, junior varsity, and regular season play, where institutional goals are primarily related to health and fitness and to the development of social skills." (Block Decl. Ex. N (Coleman 2020) at 130.) Dr. Brown disagrees with that recommendation and therefore omitted it from his expert report. The Coleman 2020 article also advocates that transgender women should be allowed to participate in more competitive sports events if they suppress circulating testosterone. *Id*. When asked why he did not include that information, Dr. Brown stated in his deposition that the article "is kind of confusing on that" point, but he nevertheless cited the article in alleged support of his position. (Dkt. No. 289-31 (Brown Dep. Tr.) 209:8-9.)

Dr. Brown repeats the same pattern when claiming that a "briefing book" from Professor Coleman's organization, the Women's Sports Policy Working Group, supported Dr. Brown's views. (Dkt. No. 289-30 (Brown Rep.) ¶¶ 169–70.) The "briefing book" proposes Title IX regulations that are similar to the positions advocated in the Coleman 2020 article. (*See* Block Decl. Ex. Q (Briefing Book).) The proposed regulations state that: "Because trans girls/women who have not begun male puberty do not have significant male sex-linked advantages, they shall be included in girls' and women's sports without conditions or limitations." (*Id.* at 12.) The proposed regulation further provides that "transgender girls who have experienced puberty and who have sufficiently mitigated their male sex-linked advantages—through surgery and/or gender affirming hormones consistent with the rules of their international federations—may participate in girls'/women's sport without additional conditions or limitations." (*Id.* at 12–13.) Dr. Brown ignores those recommendations while claiming Dr. Coleman's organization as one of the "respected voices" supporting his views.

Dr. Brown misrepresented his sources again in his discussion of the Hilton 2021 article, which specifically advocates against an across-the-board rule. (*See* Block Decl. Ex. H (Hilton 2021).) The article states that "it is clear that different sports differ vastly in terms of physiological determinants of success, which may create safety considerations and may alter the importance of retained performance advantages. Thus, we argue against universal guidelines for transgender athletes in sport and instead propose that each individual sports federation evaluate their own conditions for inclusivity, fairness and safety." (*Id.* at 211.) The article also specifically notes that given testosterone suppression's effects in endurance-based sports, "the balance between inclusion and fairness is likely closer to equilibrium in weight-bearing endurance-based sports compared with strength-based sports." (*Id.* at 209.) Dr. Brown does not mention these recommendations. At

his deposition, Dr. Brown testified incorrectly that the article supported a categorical across-the-board exclusion for all sports. (Dkt. No. 289-30 (Brown Dep. Tr.) 200:2-12.)

A 2021 article from Harper received the same treatment from Dr. Brown. Like the Hilton 2021 article, the Harper 2021 article distinguishes between endurance sports and strength sports and states that "sport-specific regulations for transwomen in endurance versus strength sports may be needed." (Block Decl. Ex. F (Harper 2021) at 8.) The Harper 2021 article also cautions that: "Whether transgender and cisgender women can engage in meaningful sport, even after gender-affirming hormone therapy, is a highly debated question. However, before this question can be answered with any certainty, the intricacies and complexity of factors that feed into the development of high-performance athletes warrant further investigation of attributes beyond those assessed herein." (*Id.*) While purporting to rely on Harper 2021, (*see* Brown Rep. ¶¶ 8, 12, 128, 143, 151, 164), Dr. Brown ignores these inconvenient portions of the article that directly undermine his opinion that an across-the-board ban on the participation of transgender women is justified by the current science.

A one-sided advocacy piece is neither helpful nor reliable for a finder of fact. With all of these articles, Dr. Brown purported to summarize the opinions of respected voices in the scientific community by in reality chose only to "cite[] the information that I agree with." (Dkt. No. 289-31 (Brown Dep. Tr.) 231:2-13.) Under Rule 702, such "[r]esult-driven analysis, or cherry-picking, undermines principles of the scientific method and is a quintessential example of applying methodologies (valid or otherwise) in an unreliable fashion." *In re Lipitor*, 892 F.3d at 634.

## CONCLUSION

For the foregoing reasons, the Court should enter an order excluding the proffered expert testimony of Gregory Brown, Ph.D., FACSM from consideration at summary judgment or trial.

Dated: May 12, 2022

Respectfully Submitted,
/s/ Loree Stark

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IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION

B.P.J. by her next friend and mother, HEATHER JACKSON,

*Plaintiff*,

v.

WEST VIRGINIA STATE BOARD OF EDUCATION, HARRISON COUNTY BOARD OF EDUCATION, WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION, W. CLAYTON BURCH in his official capacity as State Superintendent, DORA STUTLER in her official capacity as Harrison County Superintendent, and THE STATE OF WEST VIRGINIA,

*Defendants*,

and

LAINEY ARMISTEAD,

*Defendant-Intervenor*.

Civil Action No. 2:21-cv-00316

Hon. Joseph R. Goodwin

**CERTIFICATE OF SERVICE**

**CERTIFICATE OF SERVICE**

I, Loree Stark, do hereby certify that on this 12th day of May, 2022, I electronically filed a true and exact copy of the ***Memorandum in Support of Plaintiff's Motion to Exclude Expert Testimony of Gregory A. Brown*** with the Clerk of Court and all parties using the CM/ECF System.

*/s/ Loree Stark*
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